September 9th.

DR. BRIDGES, Vice President, in the Chair.

A paper was presented entitled, "Researches upon the Cyprinoid Fishes inhabiting the fresh waters of the United States of America, west of the Mississippi Valley, from specimens in the museum of the Smithsonian Institution, by Charles Girard, M. D.," which was referred to a Committee consisting of Drs. J. A. Meigs, Rand, and Hallowell.

September 16th.

MR. LEA, Vice President, in the Chair.

Letters were read—

From the Royal Academy of Sciences of Madrid, dated December 31st, 1854, transmitting their publications acknowledged this evening.

From the Smithsonian Institution, dated Washington, June 18th, 1856, acknowledging the receipt of Vol. 8, No. 2, of the Proceedings of the Academy.

From the American Philosophical Society, dated September 3d, 1856, acknowledging the receipt of the Journal, (N. S. Vol. 3, part 2,) and the Proceedings (Vol. 8, Nos. 1, 2, 3), of the Academy.

Dr. Leidy remarked that, he had observed the eyes of the Katy-did (*Platyphyllum concavum*) which during the day are translucent and greenish, at night assume a deep cherry red color. Upon experimenting with the insect he found that, when the light was excluded, in the course of a few hours the eyes gradually became dark red, and after a restoration of light they again became translucent and greenish. The phenomenon was not positively explained, but it was supposed to belong to the same category of changes, observed in the skin of certain reptiles and cephalopods; *i. e.* the coloring matter of the eyes probably is composed of chromatophora, or contractile pigment cells, which according to the condition of contraction exhibit a difference in color.

Dr. Leidy also directed the attention of the members to several shells of the oyster and clam (*Ostrea virginiana* and *Venus mercenaria*) much perforated, which are common on the ocean shore, where they are noticed by all visitors. Dr. L. had for a long time suspected that the perforations were due to some other molluscous animal or a worm; and he had frequently sought for them. The last summer, in dredging, in company with Mr. Ashmead and Prof. Baird, on an old oyster bed, at Great Egg Harbor, New Jersey, a large number of these perforated shells were obtained, and all of them were observed to be occupied by a sulphur yellow sponge of the genus *Cliona*. This boring sponge forms an extensive system of galleries between the outer and inner layer of the shells, and protrudes through the perforations of the latter tubular processes, from one to two lines long and one-half to three-fourths of a line wide. The tubes are of two kinds; the most numerous being cylindrical and expanded at the orifice in a corolla form, with their margin thin, translucent, entire, veined with more opaque lines, and with the throat bristling with silicious spiculæ. The second kind of tubes are comparatively few, about as one is to thirty of the other, and are shorter, wider, not expanded at the orifice, and the throat unobstructed

afterwards appeared a *Synopsis of the Ichthyological Fauna of the Pacific slope of North America, chiefly from the collections made by the U. S. Expl. Exped. under the command of Capt. C. Wilkes, with recent additions and comparisons with eastern types. By the same author.**

These two papers, though anticipating some of the following results, were greeted with a hearty welcome, and I can only regret that the second was not concluded up to the time I am writing. I have delayed entering into this subject as long as was consistent with the duties imposed upon me.

In both of them, we find the laudable desire of attempting to bring back into use, the long forgotten genera of Rafinesque, which fell into disuse because of their own imperfection; and if they have not passed into the common nomenclature of the day, it was owing to their defect, more than to the partiality of naturalists. For we may well imagine how any one would feel when rebuilding another's work, as little known to the author as to the commentators themselves.

And yet, for my part, I have always looked upon the restoration of Rafinesque's genera and species as highly desirable, so soon as they had once been proposed and introduced into science as names. But in order to do justice to the scheme, it was necessary to the undertaking that one should go to the very ground trodden over by Rafinesque himself, his book in hand, during all the seasons of the year, ay, even for years in succession, to enable us to discriminate between that which Rafinesque really observed, and that which is imaginary.

That the *Ichthyologia Ohiensis* has been, and still is a stumbling block, is fully evinced by the fact that Dr. J. P. Kirtland, the Ohio ichthyologist, of untiring and energetic zeal and perseverance, was baffled in many of his attempts to determine Rafinesque's genera and species.

These genera and species, thus restored by Prof. Agassiz, may therefore not be received by all ichthyologists as the final settlement of that much controverted question. Be it as it may, that is: whether the identification be right or wrong, since we must have these names, I sincerely hope they will now be adopted, once for all, as proposed.

Since circumstances have compelled me to write this memoir before the completion of Agassiz's synopsis, I have restored the balance of Rafinesque's genera in the family of Cyprinoids: such are *Plargyrus* and *Semotilus*. Once upon that field of inquiries I reverted to Heckel's genera *Argyreus* and *Leucosomus*, and shewed their claim for admission upon the same general principles and canons of scientific nomenclature.

On a former occasion the genus *Leucosomus* was altogether misunderstood by me, and from an advice of mine it thus entered into the "History of the Fishes of Massachusetts, by Dr. D. H. Storer." Prof. Agassiz was led into the same error.† Heckel by inadvertence applies the name of *Cyprinus chrysoleucus*, Mitch., to *Leuciscus pulchellus*, Storer, as shown by the figures given of its teeth and the wording of its generical diagnosis. *Leucosomus*, therefore, is identical with *Cheilonemus*, and accordingly is the name to be adopted. *Cheilonemus* was proposed for *Leuciscus pulchellus*, and allied species, when it was supposed that *Leuciscus chrysoleucus* would constitute the type of the genus *Leucosomus*. But it is now well ascertained that *Leuciscus chrysoleucus* of Mitchell belongs to Rafinesque's genus *Luxilus;* and *Luxilus* has the priority over *Leucosomus*.

Leuciscus gracilis of Richardson, referred by Heckel to *Leucosomus*, is of a different generic type.

As to the genus *Argyreus*, Heckel includes in it two species generally distinct. *Cyprinus atronasus*, Mitch., *and Cypr. rubripinnis*, Mus. Par. MS. But *Cyprinus rubripinnis* is identical with *Leuciscus cornutus*, and since *Leuciscus cornutus* is to enter the genus *Plargyrus* of Rafinesque, *Cyprinus atronasus* remains as the type of the genus *Argyreus*, which again is identical with *Rhinichthys*. It must be recollected, however, that the teeth figured by Heckel under the name of *Argyreus rubripinnis*, are those of *Plargyrus cornutus*.

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*Amer. Jour. of Sc., 2d. ser. xix. 1855, pp. 71, 215.

†Amer. Jour. of Sc., 2d. ser. xix. 1855, p. 225.